

Amendments to Drawings

The attached two Replacement Sheets of drawings include changes to Figures 1 and 2.

In Figure 1 a lead line with an arrow head has been added from numeral 20 to the upper tooling and insulation apparatus. In Figure 2 a lead line has been added from numeral 30' to the mounting plate for the upper tooling and insulation apparatus.

Remarks

Amendments to the Application

The drawings have been amended to add appropriate lead lines for numeral 20 in Figure 1 and numeral 30' in Figure 2. Replacement sheets containing the corrected drawing figures are attached at the end of this paper. It is believed that these corrections satisfy the objection to the drawings.

Paragraph 0002 has been amended to add the word "by" in line 4 between "produced" and "hot gas." This amendment corrects the informality in the original paragraph.

Independent claim 1 has been amended to include the recitations of its dependent claims 2 and 3, and further amended for clarity. Dependent claims 4-7, 9, and 10 have been amended to be consistent with amended claim 1.

Dependent claims 2, 3, and 8 have been canceled as no longer necessary.

Independent claim 11 has been amended to include the recitation of its dependent claim 12, and claim 12 has, accordingly, been canceled. Claim 11 is believed to be allowable as concluded by the Examiner.

Independent claim 13 has been amended to recite two insulation enclosures that overlap during a forming operation to insulate the first and second heater plates and forming tools. This recitation is like the recitations of original claims 3 and 11. Dependent claim 14 has been amended to conform to claim 13 as it has been amended.

The Claim Rejections

Claims 1-3, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh (US Patent 4,352,280).

Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh in view of Herdzina (US Patent 5,277,047).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh in view of Hammar et al (US Patent 6,810,709).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh in view of Mahoney et al (US Patent 4,352,280).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh in view of Herdzina.

Claim 11 is believed to be allowable as amended. The Examiner is respectfully requested to reconsider and remove each of the other rejections for the following reasons.

Reasons for Allowance of Claims 1, 4-7, 9, 10, 13, 14

Claims 1 and 13 are the rejected independent claims. Each of these independent claims recites a pair of heating plates and insulation enclosures for mounting to opposing platens of a press for hot gas blow-forming. The insulation enclosures are constructed so that they can overlap when the press is closed for a forming operation. That is, one enclosure then fits within the other to enclose and insulate whatever forming tools are used in the forming operation. The utility and advantage of the invention is that different unheated, low cost, forming tools can be used in such forming operations without providing internal heaters or insulation to carry out low volume forming operations. The recited heaters and insulation enclosures can be built to accommodate different tool sizes and shapes because of the independent heater plates and overlapping insulation enclosures. None of the above cited references or combination of references teaches or suggests the inventions recited in claims 1 or 13.

In Section 1 of the Claim Rejections, the Examiner states that the Ghosh '280 patent discloses "...a perimeter wall surrounding each upper and lower plates and the first and second forming tools (18, 14) whereby when the apparatus closes together the upper insulation enclosure fits within a portion of the lower insulation enclosure..." Figure 2 from the Ghosh patent is copied into the Examiner's letter. But the Examiner is urged to take a closer look at Ghosh's drawing.

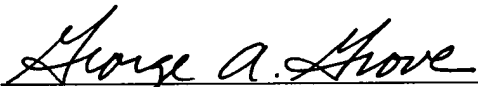
Ghosh's text at column 5 states only; "Supporting and insulating plates are provided to hold the heaters against the die and to confine the heat to the die." There is no additional text or reference to Figure 2 to describe what is disclosed in Figure 2. Each of the two sides of the sectional view of Figure 2 (which is best viewed in the larger patent sheet) is formed of three material layers in sandwich arrangement. The inner and outer layers are cross-hatched as insulation and the middle layer is cross-hatched as metal. Metal, of course, is a thermal conductor; it is not an insulator. The three layer structures extend from the upper platen of press 22 and from the lower platen. The inner insulation layers do not abut or close when the press is

closed as illustrated in Figure 2. The outer insulation layers abut end-to-end when the press is closed; they do not overlap. There is no overlap of insulator pieces in Figure 2 of Ghosh.

The metal layers or plates abut when the Ghosh press is closed. And the lower metal layers overlap the inside upper insulation layers, but the metal layers are not insulators. And if different size dies 14, 18 were placed in the Ghosh press with the three layer insulator-metal insulator structures; the press could not accommodate them. If the different tools were lower than dies 14, 18, the metal plate centers would abut before the dies could be closed. And if the different tools were higher than dies 14, 18, the dies would strike each other before the three layer side members closed.

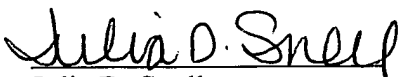
Ghosh certainly does not teach or suggest the inventions recited in claims 1 or 13. And the combinations of Ghosh with Herdzina, Hammar or Mahoney do not teach or suggest the inventions recited in dependent claims 4-7, 9, 10, and 14. It is respectfully requested that each of the above rejections be reconsidered and removed. Claims 1, 4-7, 9-11, 13 and 14 should be allowed and the case passed to issue.

Respectfully Submitted,


George A. Grove, Reg. No. 23023
Reising, Ethington, Barnes, Kisselle, P.C.
P.O. Box 4390
Troy, Michigan 48099-4390
248-689-3500

CERTIFICATE OF MAILING

I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: 2/28/06.


Julia D. Snell
Assistant to George A. Grove